

Date: Monday, 9/10/2007 1:28:14 PM
User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : BLOWER MOTOR ADAPTER
Job Number : 34492	
Estimate Number : 12132	
P.O. Number :	Part Number : D34763
This Issue : 9/10/2007 S.O. No. :	Drawing Number : D3476 REV A
Prsht Rev. : NC	Project Number : N/A
First Issue : 1/1 Type : SMALL /MED FAB	Drawing Revision : A
Previous Run : 27025	Material :
Written By :	Due Date : 10/10/2007 Qty: 10 Um: Each
Checked & Approved By : <u>[Signature]</u>	
Comment : Est Rev: A New Issue 06-01-31 JLM	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	PG	PURCHASING
-----	----	------------



Comment: PURCHASING

Issue P/O: 4556 For D3476-3S

Spin as per Dwg D3476

Possible Supplier: SIEG

Material release note is required

C207109111

(10)

2.0	D34763S	DOME, SPINNING DETAIL
-----	---------	-----------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 10.0000 Each(s)
scoop outlet

3.0	PACKAGING 1	PACKAGING RESOURCE #1
-----	-------------	-----------------------



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

C171127

(10)

4.0	QC6	DIMENSIONAL CHECK
-----	-----	-------------------



Comment: DIMENSIONAL CHECK

ENC100103

(X10) center

5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
-----	-------------	-------------------------------



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Layout Hole Position Using Dt8844 Template

2-Drill 2.250" as per Dwg D3476

3-Flare as per Dwg D3476 Using DT8845 A&B

FF 02-04-06

Polish parts m-1 09/04/06

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 9/10/2007 1:28:14 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BLOWER MOTOR ADAPTER

Job Number: 34492

Part Number: D34763

Job Number:



Seq. #:

Machine Or Operation:

Description:

M-h 04/05/08 (10X)
M-h 09/05/07 (10X)

4-Deburr if Required

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 09/05/11 (10X)

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

034763 57160 *P-0* 9/05/11 (10X)

8.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/05/11 *JA*

Job Completion



MF
09-05-11

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

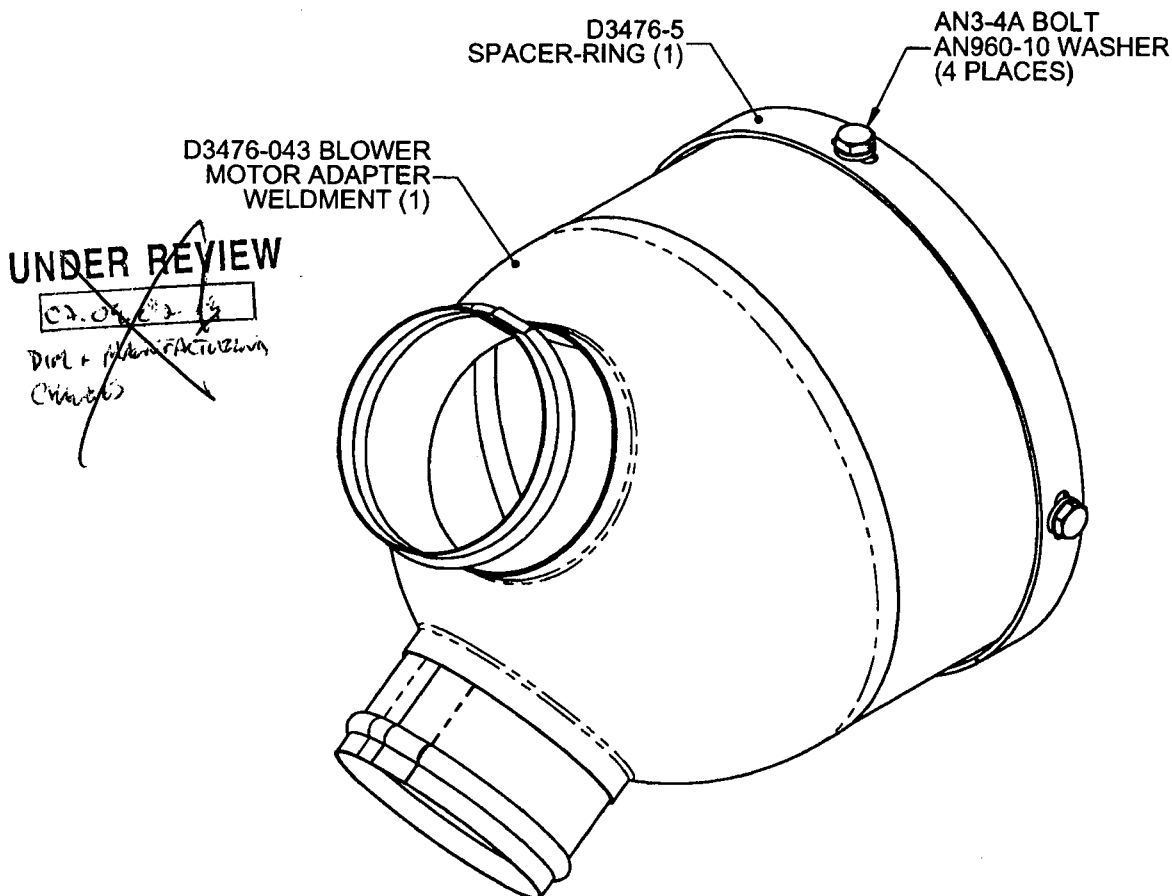
QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

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CHECKED <i>A</i>	APPROVED <i>A</i>	DRAWING NO. D3476	REV. A SHEET 1 OF 7
DATE 06.01.27		TITLE BLOWER MOTOR ADAPTER	SCALE 1:2
A	06.01.27	NEW ISSUE	

06.04.03**D3476-041 BLOWER MOTOR ADAPTER**

1) IDENTIFY WITH DART P/N D3476-041 USING FINE POINT PERMANENT INK MARKER

QTY -041	P/N	DESCRIPTION
X	D3476-041	BLOWER MOTOR ADAPTER
1	D3476-043	BLOWER MOTOR ADAPTER WELDMENT
1	D3476-5	SPACER-RING
4	AN3-4A	BOLT
4	AN960-10	WASHER

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WORK ORDER
NO *34492*

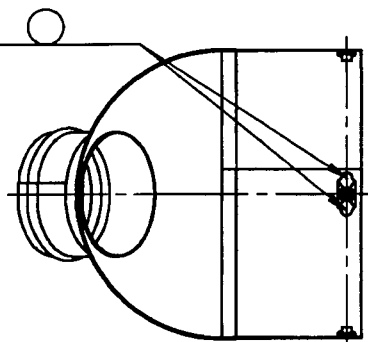
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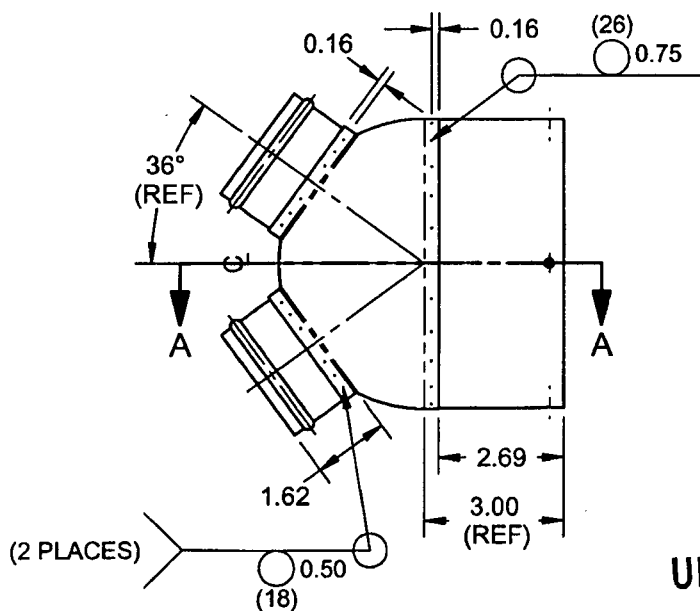


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DATE 06.01.27		TITLE BLOWER MOTOR ADAPTER	SCALE 1:4

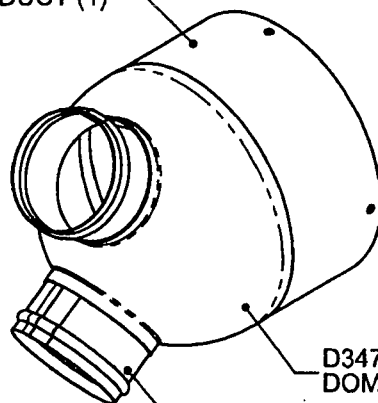
LOCATE AND
SPOT WELD
NUT PLATES
(4 PLACES)



SECTION A-A



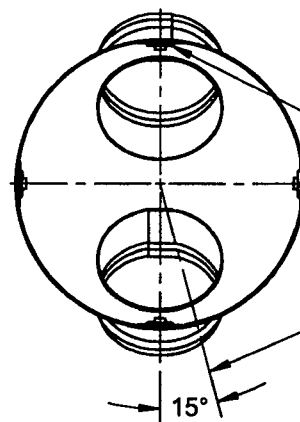
D3476-1
DUCT (1)



D3476-3
DOME (1)

D3476-7 TUBE
(2 PLACES)

NAS-1031C3W
NUT PLATES
(4 PLACES)



OFFSET SEAM
ON DUCT

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UNDER REVIEW

C. J. C. C. J.

Dir + Plan + Fabrication
Chait

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D3476-043 BLOWER MOTOR ADAPTER WELDMENT

NOTES:

- 1) SPOT WELD PER DART QSI 004
- 2) FINISH: NONE
- 3) PART IS SYMETRICAL ABOUT CENTERLINE
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010

QTY -043	P/N	DESCRIPTION
X	D3476-043	BLOWER MOTOR ADAPTER WELDMENT
1	D3476-1	DUCT
1	D3476-3	DOME
2	D3476-7	TUBE
4	NAS1031C3W	NUTPLATE

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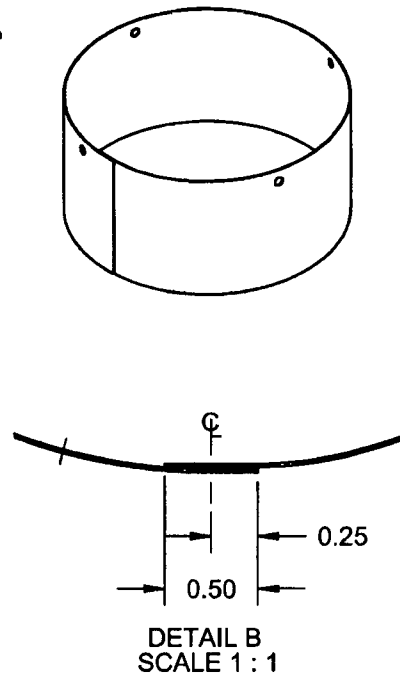
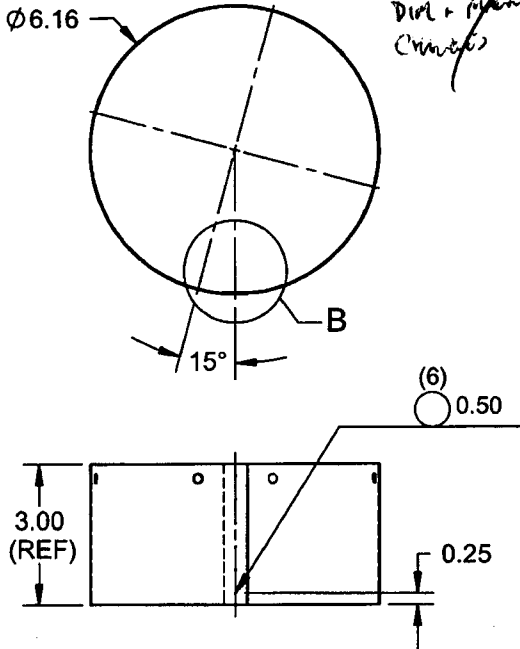
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DATE 06.01.27		TITLE BLOWER MOTOR ADAPTER	SCALE 1:4

06.07.03

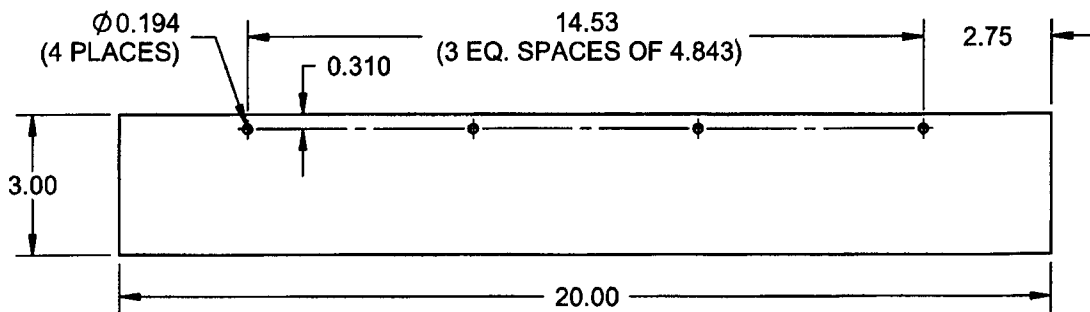
UNDER REVIEW

[Signature]

*Dist. & Plan. Factorization
Changes*



D3476-1 DUCT



D3476-1F DUCT FLAT PATTERN

NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH
26 GAUGE SS (0.018 THICK)
(REF. DART SPEC. M304S26GA)
- 2) SPOT WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

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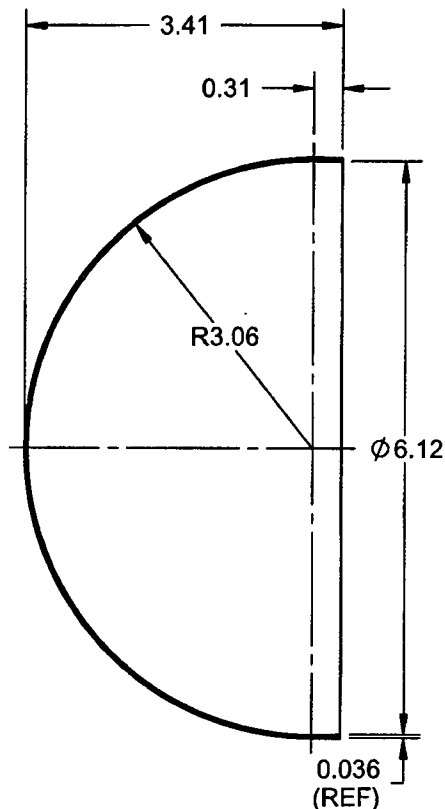
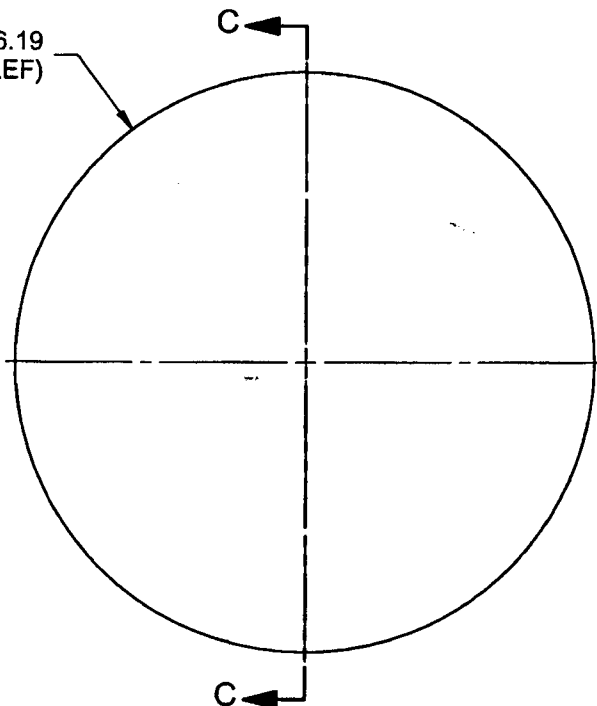
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DATE 06.01.27		TITLE BLOWER MOTOR ADAPTER	SCALE 1:2

RELEASED

06.04.03

~~UNDER REVIEW~~~~02.04.03~~~~DIM + ALLEN + SLOTTED
(CHANGES)~~Ø6.19
(REF)**SECTION C-C****D3476-3S DOME, SPINNING DETAIL****NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET, 0.036 THICK PER MIL-S-5019 (ANNEALED) 2B FINISH (REF. DART SPEC. M304S20GA)
- 2) FORM BY SPINNING TO DIMENSION WITHOUT EXCESS THINNING OF MATERIAL (MINIMUM THICKNESS = 0.025").
- 3) FINISH: NONE
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010

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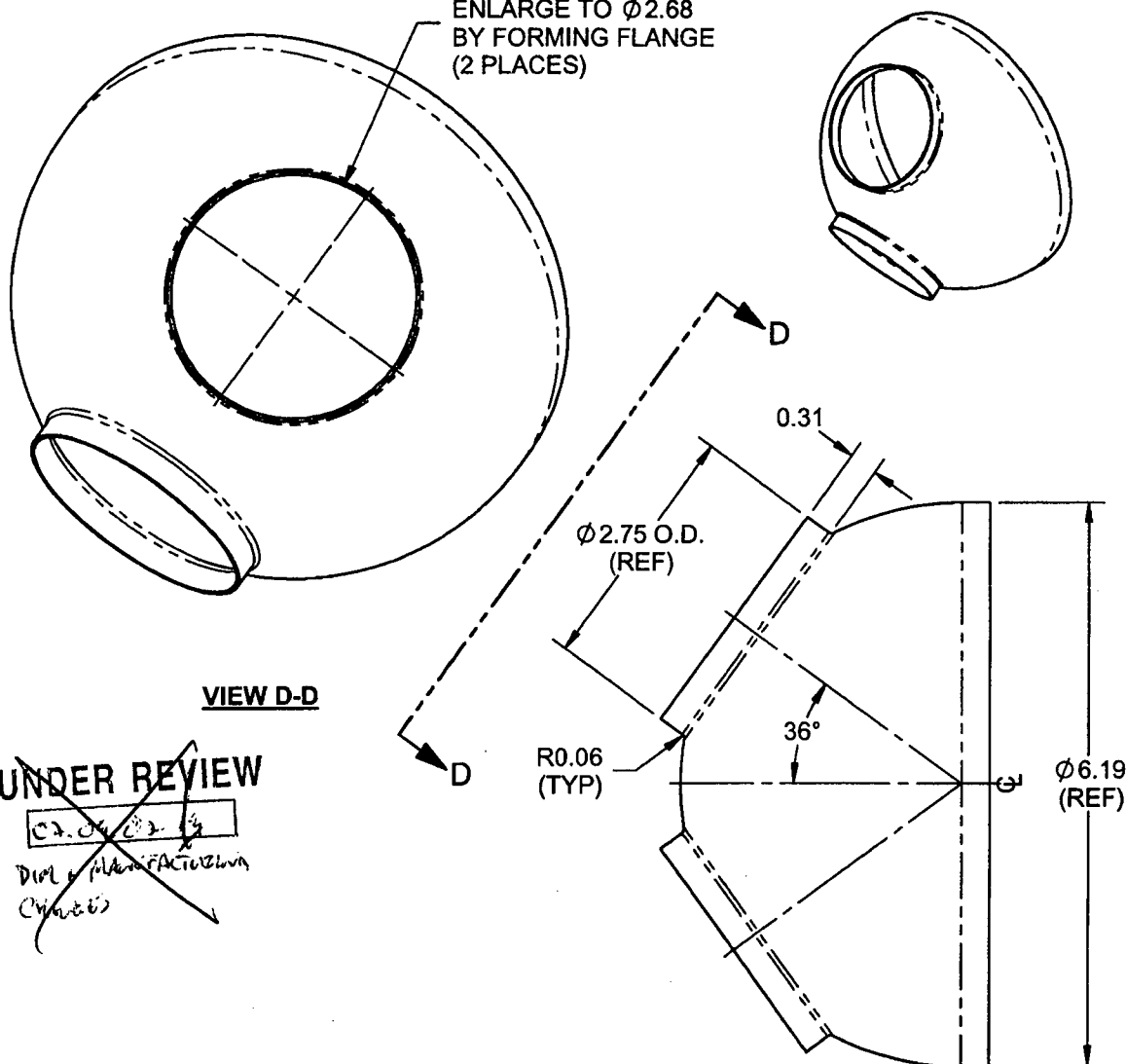
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DATE 06.01.27		TITLE BLOWER MOTOR ADAPTER	SCALE 1:2

06.04.03

CUT $\phi 2.25$ HOLE,
ENLARGE TO $\phi 2.68$
BY FORMING FLANGE
(2 PLACES)

**D3476-3 DOME****NOTES:**

- 1) MATERIAL: MAKE FROM D3476-3S
- 2) FINISH: NONE
- 3) PART IS SYMMETRICAL ABOUT CENTERLINE
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010

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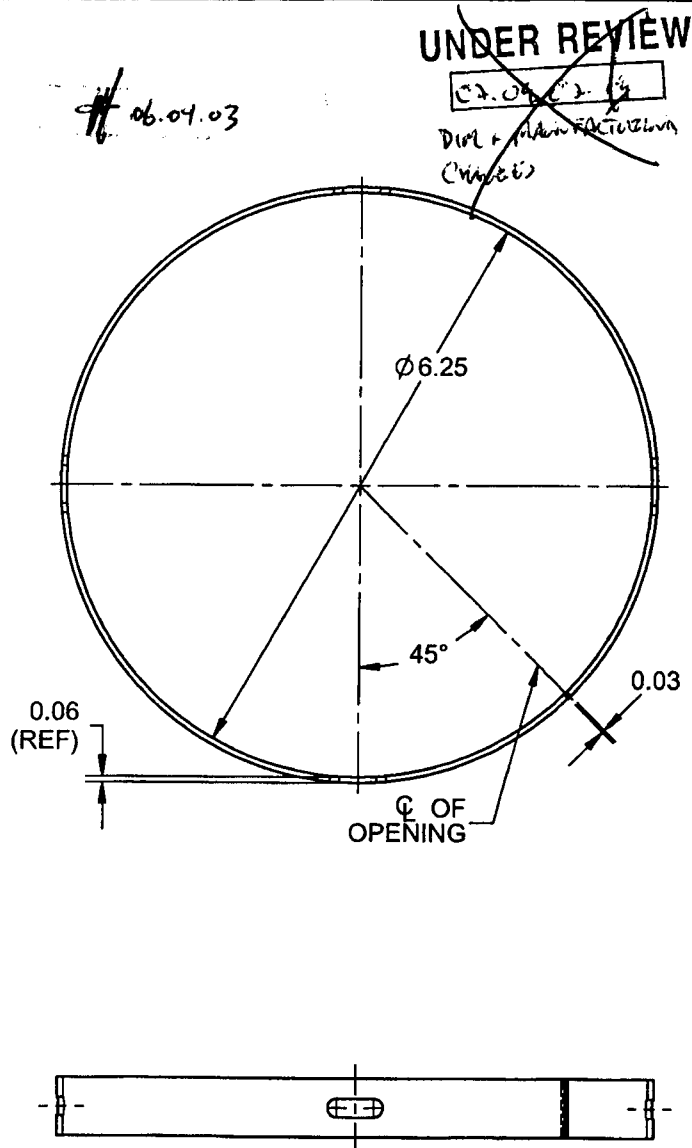
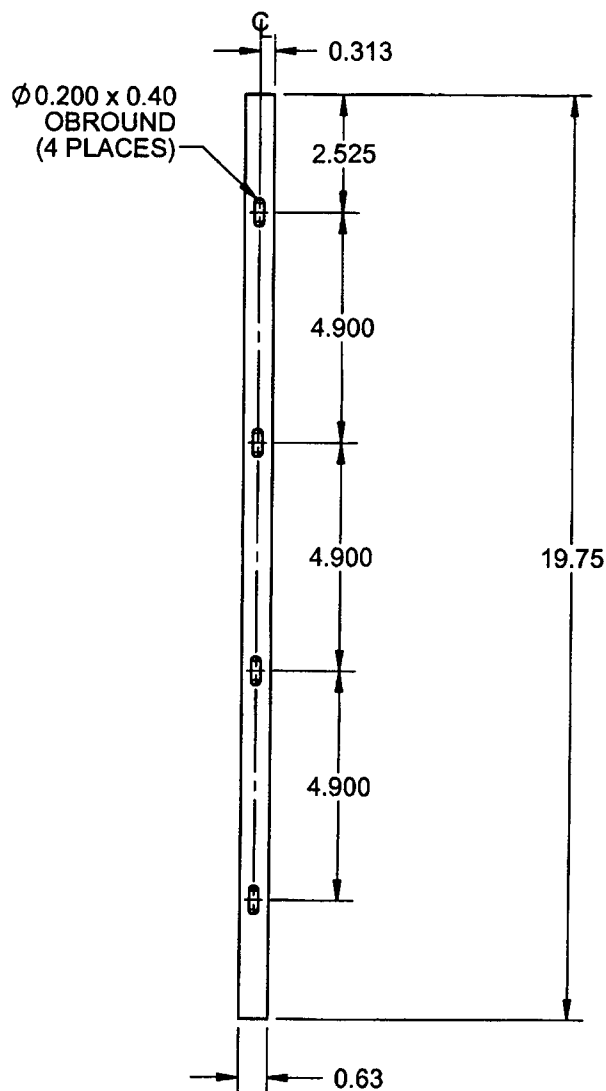
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DATE 06.01.27		TITLE BLOWER MOTOR ADAPTER	SCALE 1:2

**D3476-5 SPACER-RING****D3476-5F SPACER-RING
FLAT PATTERN****NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET, 0.063 THICK, PER MIL-S-5019 (ANNEALED) 2B FINISH (REF. DART SPEC. M304S16GA)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

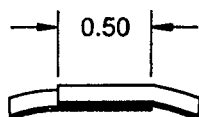
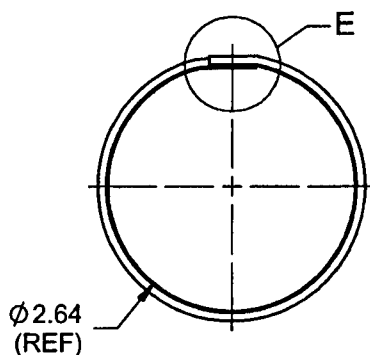
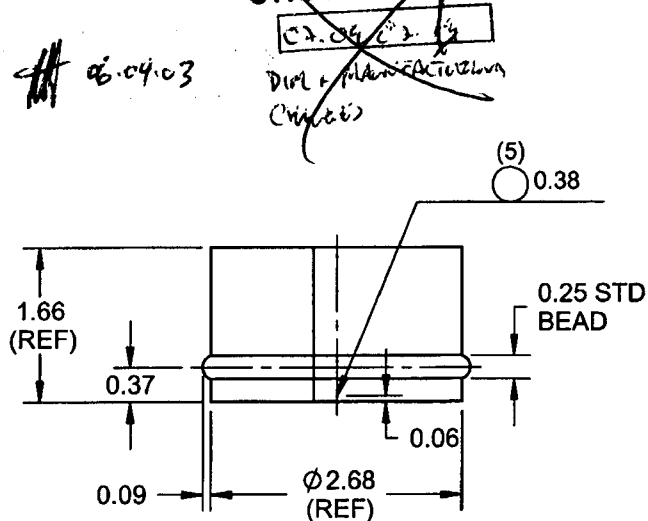
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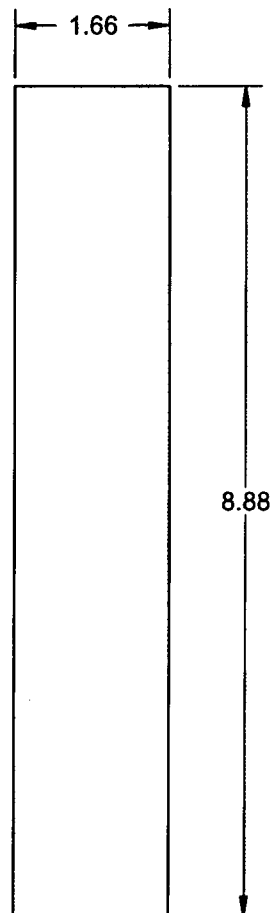
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DATE 06.01.27		TITLE BLOWER MOTOR ADAPTER	SCALE 1:2

UNDER REVIEW

DETAIL E
SCALE 1:1

D3476-7 TUBE**D3476-7 TUBE
FLAT PATTERN****NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5019 (ANNEALED) 2B FINISH
26 GAUGE SS (0.018 THICK)
(REF. DART SPEC. M304S26GA)
- 2) SPOT WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010

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G.S.T. # R104850649

PACKING SLIP

№ 31623

SOLD TO:

Dart Aerospace

DATE:

Sept. 26/07

CUSTOMER P.O. #

4556

[illegible]

2% interest per month (24% per annum) charged on overdue accounts past 30 days.

Material Certification Attached: Yes.



Sieg's Manufacturing Ltd.

Metal Spinning and Fabricating

6236 - 205 STREET, LANGLEY, B.C. V2Y 1N7

TELEPHONE: (604) 530-7455 • FAX: (604) 530-7490

INSPECTION REPORT

Date: Sept. 26

Customer: Dart Aerospace

Packing Slip: 31623

Part#:	Quantity	Material	Check holes	Debur edges	Insp. By.
D347635	10	.036 SST	N/A	✓	KL

Notes:

looked good to me.

Material Certification Attached: Yes.

14:14 FAX 8045209808
 est Report

ABSTRACT INT'L METALS

001

Page 1 of 1

4ILL TEST REPORT



TA CHEN INTERNATIONAL, INC.

www.tachen.com

This MTR contains 1 page (Page: 1)

1TR#:ACCL10542

Item#: 20GA48120316L28

 ThyssenKrupp Nirosa Ein Unternehmen von ThyssenKrupp Steel		ABNAHMEPRUEFZEUGNIS 3.1 INSPECTION CERTIFICATE 3.1 CERTIFICAT DE RECEPTION 3.1 EN 10204		Zeugnis-Nr.: 051101471 Certificate No.: N° du certificat: <i>ACCL10542</i> Datum: 20.04.2005 Date:							
47794 Krefeld Postfach THYSSENKRUPP NIROSTA 2276 HALF DAY ROAD, SUITE 160 USA- BANNOCKBURN, IL 60015 USA		Besteller: Purchaser: Commandant: THYSSENKRUPP NIROSTA Bestell-Nr.: Order-No.: Commande N°: OC 00002449 - PO L13812 Unper. Auftrag Nr.: Our Order No.: Notre commande: 278140 Unters. d. Sachverständigen: Inspector's stamp: Patillon de l'expert: 		Lieferungs-Nr.: Delivery Note No.: Avis d'expédition N°: 86437223							
Erzeugnisform: Product: Produkt: Blech/Sheet/Toile Werkstoff: Quality: Matière: TYPE 316 / 316 L		Lieferbedingungen/Terms of delivery/Conditions de livraison: ASTM A 240/A 240M-04a ASME SA 240 Sec. II Part A Ed.04 ASTM A 480/A 480M-04 ASME SA 480/SA 480M 01 ASTM A 688-03 SAE AMS 5507 F SAE AMS 5524 K									
Position Item Poste	Stückzahl Quantity Montre	Gewicht/Masse Weight LBS	Maße/Produkt dimensions/Dimensions du produit Inch			Erz.-Art Mat. form. Mode de fab.	Schmelz- Nr., Cast-No. Coulée N°	Los-/Bund-Nr. Lot-/Cob-No. Lot-/Boucheau-N°	Anfertigung Finish Fin		
10	629	36953	0,0350 x 48,000 x 120,000			AOD		22056	3C2B		
Schmelz- Nr., Cast-No. Coulée N°	C %	Si %	Mn %	P %	S %	Cr %	Mo %	Ni %	N %	Cu %	
484447	0,02	0,37	0,86	0,029	0,001	16,85	2,02	10,54	0,037	0,23	
Probe Number Test No. Epr. N°	Los-/Bund-Nr. Lot-/Cob-No. Lot-/Boucheau-N°	Rp0,2 PSI	Rp1% PSI	Rm PSI	A2° %	HV	KO	GL/BT %			
596 A	22056 00	47555	51325	91195	49,8	163,0	10,0	17,0			
596 E	22056 00	48135	51760	91920	50,0	164,0	10,0	17,0			
Probier- auf- zeichnung Drawing	KO Korngröße / Grain Size nach ASTM E 112 GL/BT Glanz bei 20 Grad (BRIGHTNESS TEST=USA) QUER										
Verwechslungsprüfung (Spektralanalyse)/Test of identity (spectrum analysis)/Contrôle d'identification (analyse spectrale) Maße - Oberfläche/Dimensions - Surface/Dimensions - Surface Prüfung auf Interkrist. Korros./Test of intercryst. corros./Test de corros. intercryst. EN ISO 3651-2											I.O. I.O. O.B.
ThyssenKrupp Nirosa GmbH DIESES ZEUGNIS WURDE VOM RECHNER ERSTELLT WERK KREFELD, ABNAHME BUTZEN ABNAHMEBEAUFTRAGTER INSPECTION REPRESENTATIVE TEL:02151-832447 FAX:02151-834106											Frei von Quecksilber / free of mercury NO MERCURY WAERMEBEHANDLUNG : 1050 GRAD C / LUFT TRAITEMENT TERMIQUE : 1050 GRAD C / AIR HEAT - TREATMENT : 1050 DEGREE / AIR
											8892721 8892723 8892741 8892747 8892748 8892749 8892750 8892760 8892762 8892763 8892765

484447

20 ga.

48" x 120"

316

SHEET

316L Stainless Steel Sheet

316L Stainless Steel Sheet***Alloy Attributes***

- Fair machinability
- Very good welding
- Excellent corrosion resistance
- Good formability

Tempers

- Annealed

Shapes / Forms

- sheet

Sizes/ Tolerances

- Thicknesses: .030 - .135
- Sheet Size: 48" x 96", 48" x 120"
- Tolerance - Thickness

<u>Material Thickness</u>	<u>Tolerance</u>
.030" - .040"	+ 0 - .004
.0401" - .058"	+ 0 - .005
.0581" - .072"	+0/- .006
.0721" - .083"	+0/- .007
.0831" - .098"	+0/- .008
.0981" - .114"	+0/- .009
.1141" - .130"	+0/- .010
.1301" - .145"	+0/- .012
.1451" - .188"	+0/- .014

Product Surface Finishes

- Mill finish with the capability of being polished

Dedicated Local Suppliers

- NAS (North American Stainless)
- AST (Acciai Speciali Terni)

- Mexinox
- Thyssen-Krupp Nirosta
- Allegheny-Ludlum

Mechanical Properties

- Tensile (ultimate) strength, yield strength, elongation

<u>Minimum Tensile</u>	<u>Minimum Yield</u>	<u>% Elongation</u>	<u>Rockwell Hardness</u>
70,000 PSI	25,000 PSI	40%	B95 Max

Physical Properties

- Coefficient of Thermal Expansion: 9.4
- Electrical Conductivity: 74%
- Coefficient of Thermal Expansion: 10.3
- Weldability: Very good
- Formability: Good

Nominal Chemical Composition

- 0.03% maximum C
- 2% max Mn
- .75 % max Si
- 16-18% Cr
- 10-10.5% Ni
- 2-2.5% Mo
- Balance Fe